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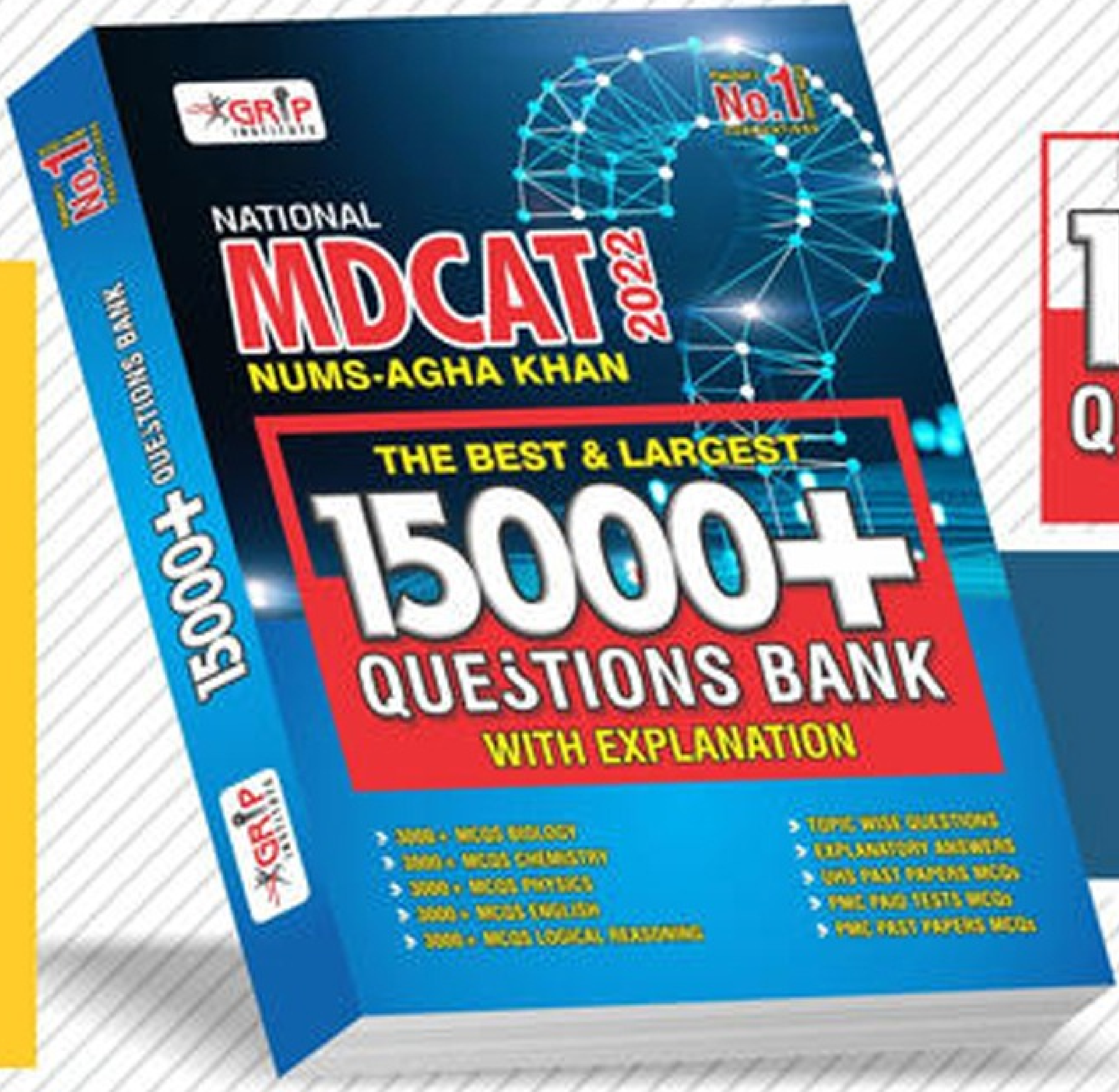

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Q.1 Not true for head of chlorophyll.

A) prophyrin ring
B) light absorbing
C) hydropholic
D) flat and square

Q.1 First action spectrum was obtained by T.W. Engelmann in 18883 by working on (PMC)

A) plant
B) bacteria
C) spirogyra
D) ulva

Q.2 Chlorophyll “b” is (PMC)

A) violet- blue pigment
B) blue-green
C) orange –red pigment
D) yellow green pigment

Q.2 Range of visible light used in photosynthesis

A) 350-700nm
B) 350-750nm
D) 380-750nm

Q.3 Which of the following pigment is found in reaction centre of PS

A) chlorophyll ‘a’

B) chlorophyll ‘b’

C) carotenoid

D) all of these

Q.3 The wave length least absorbed by chlorophylls

A) violet-blue

B) orange red

C) green and yellow

D) yellow and orange

Q.4 **Only about ---------of light falling on leaf surface is absorbed**

A) 1%

B) 2%

C) 20%

D) 50%

Q.4 Antenna complex of photosystem contains

A) chlorophyll ‘a’

B) chlorophyll ‘b’

C) carotenoids

D) all of these

Q.5 Gross production of ATP during Glycolysis

A) 2

B) 3

C) 4

D) 6

Q.5 Another name of non-cyclic phosphroylation is

A) Z- scheme

B) light independent reactions

C) C_3 pathway

D) Calvin cycle

Q.6 Increased production of NADH during Kreb's cycle exerts and inhibitory effect on which of the following enzymes

A) Phosphofructo kinase
B) Pyruvate decarboxylase
C) Succinate dehydrogenase
D) Cytochrome oxidase

Q.6 In Z- scheme Fd donate electrons to

A) photosystem I

B) NADP

C) primary electron acceptor

D) plastocyanin

Q.7 Where light energy is converted into chemical energy

A) Mitochondria

B) Stroma of chloroplast

C) Grana

D) Cytoplasm.

Q.7 Number of NADPH required for one complete calvin cycle is (Past paper)

A) 6

B) 3

C) 9

D) 12

Q.8 Partial Break down of sugar in anaerobic respiration forms

A) CO_2 + Water

B) Alcohal and CO_2

C) Fructose and water

D) Glucose and water

Q.8 **Cellular respiration is essentially is**

A) Redox process

B) reduction process

C) oxidation process

D) synthetic process

Q.9 The process by which a pH gradient across the membrane drives the formation of ATP

A) Osmosis
B) Proton pumping
C) Chemiosmosis
D) Diffusion

Q.9 **Cellular respiration is sub divided in to ______________**

A) two stages

B) 3 stages

C) four stages

D) five stages

Q.10 The number of chloroplast in each mesophyll cell is about

A) 20 – 100

B) 12000

C) Half a million

D) 1200

Q.10 Cell processes pyruvic acid in major ways

A) Aerobic respiration
B) Alcoholic fermentation
C) lactic acid fermentation
D) all of these

Q.11 The molecular formula of chloroplhyll ‘b’ is

A) $C_{55} H_{72} O_5 N_4 Mg$

B) $C_{55} H_{70} O_5 N_4 Mg$

C) $C_{55} H_{70} O_6 N_4 Mg$

D) $C_{55} H_{72} O_6 N_4 Mg$

Q.11 Calvin cycle include all except

A) reduction
B) carboxylation
C) regeneration of RuBp
D) formation of NADPH and release of oxygen

Q.12 In the first step of the citric acid cycle acetyle CoA reacts oxaloacetate to form

A) Fumarate
B) Pyruvate
C) Citrate
D) Iso citrate

Q.12 The last electron acceptor in electron transport chain is

A) NAD

B) coenzyme Q

C) cytochrome

D) Oxygen

Q.13 Glycolysis is the break down of glucose upto the formation of (PMC)

A) Pyruvic acid

B) Glyceraldehyde-3-Phosphate

C) NAD

D) Dihydroxy Acetone phosphate

Q.13 When succinate is oxidized which one of the following is reduced

A) cytochrome

B) NAD

C) NADP

D) FAD

Q.14 Which is not accessory pigment

A) Chlorophyll a
B) Chlorophyll b
C) Xanthophyll
D) Carotenoid

Q.14 What is the fate of oxygen in respiratory chain

A) It is oxidized

B) it is reduced to water

C) it released into atmosphere as gas

D) it combine with carbon to form carbon dioxide

Q.15 In the conversion of RuBP to PGA synthesis

A) A molecule of oxygen is released

B) ATP is generated

C) A molecule of carbon dioxide in accepted

D) A stable six carbon molecule is produced

Q.15 Which substance enter and leave a mitrochondrion during aerobic respiration

A)	acetyle co-enzyme A	CO_2
C)	ATP	AOP
B)	Pyruvate	ATP
D)	Glucose	$NADH_2$

Q.16 Which one occurs in the light reaction of photosynthesis?

A) Reduced NADP is oxidized
B) RuBP is carboxylated
C) Triose phosphate are reduced
D) ADP is phosphorylated

Q.16 During photosynthesis which process release electrons that return chlorophyll molecules to their reduced state

A) activation of photo system I

B) oxidation of reduced NADP

C) photophosphorylation

D) photolysis of water

Q.17 Oxidative phosphorylation takes place in conjunction with respiratory chain in the inner membrane of

A) Mitochondria

B) Chloroplast

C) Golgi body

D) Lysosome

Q.17 Which metal is present in chlorophyll (PMC)

A) Copper

B) Iron

C) Potassium

D) Magnesium

Q.18 Quantitative study of energy relationship in biological system is called

A) Biodegralation
B) Biosynthesis
C) Biotechnology
D) Bioenergetics

Q.18 What happens during the light phase of photosynthesis?

A) ADP is hydrolysed and NADPH oxidized
B) ADP is phosphorylated and NADP is reduced
C) ATP is hydrolysed and NADPH is oxidized
D) ATP is phosphorylated and NADP is reduced

Q.19 Oxygen released during photosynthesis come from (Past Paper)

A) Glucose
B) Carbon dioxide
C) Water
D) Chlorophyll

Q.19 Which statement only applies to carbon fixation in photosynthesis

A) ATP is generated

B) PGA is reduced to carbohydrate

C) A 2 – carbon compound is the acceptor for carbon dioxide

D) These reactions are directly depend on light

Q.20 Oxidation of which In ETC, ATP is not produced

A) $NADH_2$
B) cytochrome a_3
C) cytochrome b
D) Co-enzyme Q

Q20 Why RuBP important in the process of photosynthesis?

A) It is an acceptor molecule for hydrogen

B) It is a source of phosphate ion

C) It is an acceptor molecule for carbon dioxide

D) It is an intermediate in amino acid

Q.21 In which of the following oxygen is utilized

A) glycoylsis

B) oxidation of pyruvate

C) oxidation of glyceraldehydes -3- phosphate

D) electron transport

Q.21 The head of chlorophyll molecule is a complex

A) Pyrrole rings

B) Porphyrin ring

C) Mg and N

D) Benzene ring

Q.22 Which one is five carbon compound

A) α ketoglutarate

B) malate

C) citrate

D) isocitrate

Q.22 The tail of chlorophyll is

A) $C_{20}H_{39}$

B) Hydrocarbon

C) Hydrophobic

D) All of these

Q.23 In kreb's cycle which one of the following does not form

A) citrate

B) phosphoenol pyruvate

C) $\alpha - ketoglutrate$

D) fumarate

Q.23 Which is most abundant and most important photosynthetic pigment

A) Chlorophyll “a”
B) Chlorophyll “b”
C) Carotenes
D) Xanthophyll

Q.24 Enzymes of glycolysis are found in

A) in the muclear sap
B) in the mitochondrial matrix
C) in the fluid matrix of cytoplasm
D) on the cristae of mitochondrion

Q.24 Chlorophyll 'a' and chlorophyll 'b' differ from each other in only one of the function group ________ is chlorophyll 'a' is replaced by a terminal ________ in chlorophyll 'b'

A) CH_3, CHO

B) CHO, CH_3

C) CH_3, COOH

D) CHO, COOH

Q.25 Which one releases most energy during respiration

A) conversion of glucose to ethanol to CO_2
B) Oxidation of pyruvate to CO_2 and water
C) reduction fo pyruvate to lactate
D) phosphorylation of glucose

Q.25 Energy capturing process is

A) Digestion
B) Ingestion
C) Photosynthesis
D) Respiration

Q.26 The electon transport system in cells is coupled directly with the

A) production of pyruvate

B) reduction of NAD

C) synthesis of ATP

D) hydrolysis of hexose phosphate

Q.26 Which of the following acts both as reactant and product in process of photosynthesis

A) Water

B) Carbon dioxide

C) Oxygen

D) Glucose

Q.27 Which of the following is a molecule formed in metabolic pathways by the equal splitting of phosphorylated hexose into two halves?

A) triose phosphate
B) RuBP
C) acetyle coenzyme A
D) fructose-6-phosphate

Q.27 Thylakoid membranes contain several kinds of pigments, but ________ are main photosynthetic pigments (PMC)

A) Carotenoids

B) Carotenes

C) Xanthophyll

D) Chlorophylls